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Claims

1. A fabric softener composition comprising
a fabric softener component or a mixture of fabric softener components and
at least one polymer formed from the polymerisation of
 - a) a water soluble ethylenically unsaturated monomer or blend of monomers comprising at least one cationic monomer and/or at least one non-ionic monomer,
 - b) at least one cross-linking agent in an amount of less than 5 ppm by the weight of component a) and
 - c) optionally at least one chain transfer agent,with the proviso that
 - (i) if the polymer is a cationic homopolymer then the amount of the crosslinking agent is always more than 0 ppm.
2. Aqueous compositions according to claim 1 wherein the polymer has a size of more than 10 μ m.
3. Aqueous compositions according to claim 1 wherein the polymer has a size of more than 50 μ m.
4. Aqueous compositions according to claim 1 wherein the polymer has a size of from 100 μ m and up to 1000 μ m.
5. Fabric softener composition according to any one of the preceeding claims wherein the polymer is added to the compositions in solid or liquid form.
6. Fabric softener composition according to claim 1 to 4 wherein the polymer is added to the compositions in form of beads.
7. Fabric softener composition to any one of the preceding claims, wherein the polymer is a cationic homopolymer.
8. Fabric softener composition to Claims 1 - 4, wherein the polymer is a non-ionic homopolymer.

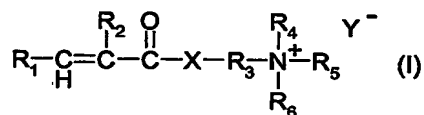
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9. Fabric softener composition according to claim 1 – 6, wherein component a) comprises 5 to 95 wt-%, preferably 30 to 95 wt-% of at least one cationic monomer and 5 – 95 wt-%, preferably 5 – 70 wt-% of at least one non-ionic monomer, based on the total weight of the copolymer.

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10. Fabric softener composition according to claim 1 – 6, wherein component a) comprises 35 to 95 wt-% of at least one cationic monomer and 5 – 65 wt-% of at least one non-ionic monomer, based on the total weight of the polymer.

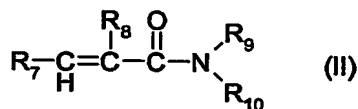
- 10 11. Fabric softener composition according to any one of Claims 1 – 7, 9 and 10 wherein the cationic monomers are diallyl dialkyl ammonium halides or compounds according to formula (I)



wherein

- 15 R₁ signifies hydrogen or methyl,
 R₂ signifies hydrogen or C₁-C₄alkyl,
 R₃ signifies C₁-C₄alkylene,
 R₄, R₅ and R₆ signify independently from each other hydrogen or C₁-C₄alkyl,
 X signifies –O– or –NH– and .
 20 Y signifies Cl; Br; I; hydrogensulphate or methosulfate.

12. Fabric softener composition according to any one of Claims 1 – 6 and 8 – 10 wherein the non-ionic monomers are N-vinyl pyrrolidone or compounds of formula (II)



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wherein

- R₇ signifies hydrogen or methyl,
 R₈ signifies hydrogen or C₁-C₄alkyl, and
 R₉ and R₁₀ signify independently from each other hydrogen or C₁-C₄alkyl.

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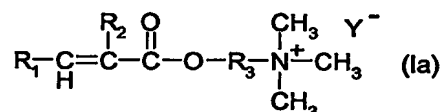
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13. Fabric softener composition according to any one of the preceding claims, wherein the cross-linking agent(s) of component b) is (are) divinyl benzene; tetra allyl ammonium chloride; allyl acrylates and methacrylates; diacrylates and dimethacrylates of glycols and polyglycols; butadiene; 1,7-octadiene; allyl-acrylamides and allyl-methacrylamides; 5 bisacrylamidoacetic acid; N,N'-methylene-bisacrylamide and polyol polyallylethers, such as polyallylsaccharose and pentaerythritol triallylether.
14. Fabric softener composition according to any one of the preceding claims, wherein the cross-linking agent(s) of component b) is (are) tetra allyl ammonium chloride; allyl- 10 acrylamides and allyl-methacrylamides; bisacrylamidoacetic acid and N,N'-methylene-bisacrylamide.
15. Fabric softener composition according to any one of the preceding claims, wherein the chain transfer agent(s) c) is (are) selected from mercaptanes; malic acid, lactic acid; 15 formic acid; isopropanol and hypophosphites.
16. Fabric softener composition according to any one of the preceding claims, wherein the chain transfer agent(s) c) is (are) present in a range of from 0 to 1000 ppm (based on the component a). 20
17. Fabric softener composition according to any one of the preceding claims, wherein the compositions comprise 0.005 to 15 % by weight of the polymer.
18. Fabric softener component according to any one of the preceding claims, wherein the 25 fabric softener components are selected from cationic quaternary ammonium salts, tertiary fatty amines having at least one C₈ to C₃₀ alkyl chains carboxylic acids having 8 to 30 carbons atoms and one carboxylic group per molecule, esters of polyhydric alcohols, fatty alcohols, ethoxylated fatty alcohols, alkylphenols, ethoxylated alkylphenols, ethoxylated fatty amines, ethoxylated monoglycerides, ethoxylated diglycerides, mineral 30 oils and polyols.
19. A liquid fabric softener composition according to any one of the preceding claims comprising:

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- A) 0.5 to 50 wt-%, preferably 2 to 50 wt-%, based on the total weight of the composition, of the fabric softener;
- B) 0.001 to 15 wt-%, preferably 0.01 to 10 wt-%, based on the total weight of the composition, of at least one homo- and/or copolymer formed from the polymerisation of

a) at least one monomer of formula (Ia)



wherein

R₁ signifies hydrogen or methyl,

R₂ signifies hydrogen or methyl,

R₃ signifies C₁-C₂alkylene and

Y signifies Cl; Br or I, and

b) at least one cross-linking agent selected from divinyl benzene; tetra allyl ammonium chloride; allyl acrylates and methacrylates; diacrylates and dimethacrylates of glycols and polyglycols; butadiene; 1,7-octadiene; allyl-acrylamides and allyl-methacrylamides; bisacrylamidoacetic acid; N,N'-methylene-bisacrylamide and polyol polyallylethers in an amount of more than 0 ppm and less than 5 ppm (based on the component a), and

c) optionally at least one chain transfer agent selected from mercaptanes; malic acid; lactic acid; formic acid; isopropanol and hypophosphites in an amount of 0 – 1000 ppm, preferably 0 – 500 ppm, more preferably 0 – 300 ppm (based on the component a) with the proviso that if the polymer is a homopolymer then the amount of the crosslinking agent is always more than 0 ppm;

C) 0 to 20 wt-%, based on the total weight of the composition, of customary additives; and

D) 0 to 5 wt-%, preferably 0 to 3 wt-%, more preferably 0 to 2 wt-%, based in the total weight of the composition, of a perfume;

E) 0 to 0.5 wt-%, preferably 0.005 to 0.25 wt-%, more preferably 0.01 to 0.1 wt-%, based in the total weight of the composition, a component capable of sequestering metal ions and selected from the group consisting of:

i) chelating components selected from the group consisting of amino carboxylic acid, organo aminophosphonic acid components, and mixtures thereof,

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ii) polycarboxylic building components, other than those defined under i) as chelating components, comprising at least two carboxylic radicals separated from each other by not more than two carbon atoms, and,

iii) mixtures thereof; and

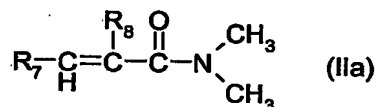
5 F) water to 100 %.

20. A liquid fabric softener composition according to any one of claims 1 - 18 comprising:

A) 0.5 to 50 wt-%, preferably 2 to 50 wt-%, based on the total weight of the composition, of the fabric softener;

10 B) 0.001 to 15 wt-%, preferably 0.01 to 10 wt-%, based on the total weight of the composition, of at least one homo- and/or copolymer formed from the polymerisation of

a) at least one monomer of formula (IIa)



15 wherein

R₇ signifies hydrogen or methyl, and

R₈ signifies hydrogen; methyl or ethyl,

20 b) optionally at least one cross-linking agent selected from divinyl benzene; tetra allyl ammonium chloride; allyl acrylates and methacrylates; diacrylates and dimethacrylates of glycols and polyglycols; butadiene; 1,7-octadiene; allyl-acrylamides and allyl-methacrylamides; bisacrylamidoacetic acid; N,N'-methylene-bisacrylamide and polyol polyallylethers in an amount of less than 5 ppm (based on the component a), and

25 c) optionally at least one chain transfer agent selected from mercaptanes; malic acid; lactic acid; formic acid; isopropanol and hypophosphites in an amount of 0 - 1000 ppm, preferably 0 - 500 ppm, more preferably 0 - 300 ppm (based on the component a);

C) 0 to 20 wt-%, based on the total weight of the composition, of customary additives;

30 D) 0 to 5 wt-%, preferably 0 to 3 wt-%, more preferably 0 to 2 wt-%, based in the total weight of the composition, of a perfume;

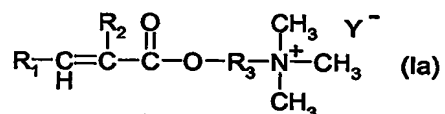
E) 0 to 0.5 wt-%, preferably 0.005 to 0.25 wt-%, more preferably 0.01 to 0.1 wt-%, based in the total weight of the composition, a component capable of sequestering metal ions and selected from the group consisting of:

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- i) chelating components selected from the group consisting of amino carboxylic acid, organo aminophosphonic acid components, and mixtures thereof,
 ii) polycarboxylic building components, other than those defined under i) as chelating components, comprising at least two carboxylic radicals separated from each other by not more than two carbon atoms, and,
 iii) mixtures thereof; and
 F) water to 100 %.

21. A liquid fabric softener composition according to any one of claims 1 - 18 comprising:

- A) 0.5 to 50 wt-%, preferably 2 to 50 wt-%, based on the total weight of the composition, of the fabric softener;
 B) 0.001 to 15 wt-%, preferably 0.01 to 10 wt-%, based on the total weight of the composition, of at least one copolymer formed from the polymerisation of
 a) 5 – 95 wt-%, preferably 30 – 95 wt-%, based on the on the total weight of the copolymer, of at least one monomer of formula (Ia)



wherein

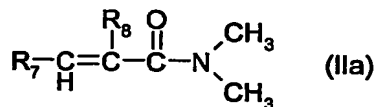
R₁ signifies hydrogen or methyl,

R₂ signifies hydrogen or methyl,

R₃ signifies C₁-C₂alkylene and

Y signifies Cl; Br or I, and

- b) 5 – 95 wt-%, preferably 5 – 70 wt-%, based on the total weight of the copolymer, of at least one monomer of formula (IIa)



wherein

R₇ signifies is hydrogen or methyl, and

R₈ signifies hydrogen; methyl or ethyl,

- c) optionally a cross-linking agent or a mixture of cross-linking agents selected from divinyl benzene; tetra allyl ammonium chloride; allyl acrylates and methacrylates; diacrylates and dimethacrylates of glycols and polyglycols; butadiene; 1,7-octadiene;

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allyl-acrylamides and allyl-methacrylamides; bisacrylamidoacetic acid; N,N'-methylene-bisacrylamide and polyol polyallylethers in an amount of less than 5 ppm (based on the component a), and

5 d) optionally at least one chain transfer agent selected from mercaptanes; malic acid; lactic acid; formic acid; isopropanol and hypophosphites in an amount of 0 – 1000 ppm, preferably 0 – 500 ppm, more preferably 0 – 300 ppm (based on the component a);

C) 0 to 20 wt-%, based on the total weight of the composition, of customary additives; and

10 D) 0 to 5 wt-%, preferably 0 to 3 wt-%, more preferably 0 to 2 wt-%, based in the total weight of the composition, of a perfume;

E) 0 to 0.5 wt-%, preferably 0.005 to 0.25 wt-%, more preferably 0.01 to 0.1 wt-%, based in the total weight of the composition, a component capable of sequestering metal ions and selected from the group consisting of:

15 i) chelating components selected from the group consisting of amino carboxylic acid, organo aminophosphonic acid components, and mixtures thereof,

ii) polycarboxylic building components, other than those defined under i) as chelating components, comprising at least two carboxylic radicals separated from each other by not more than two carbon atoms, and,

iii) mixtures thereof; and

20 F) water to 100 %.

22. A liquid fabric softener composition according to any one of claims 19 - 21 wherein the polymer has an average particle size of more than 10µm, preferably more than 50µm, most preferably of from 50µm and up to 1000µm.

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